

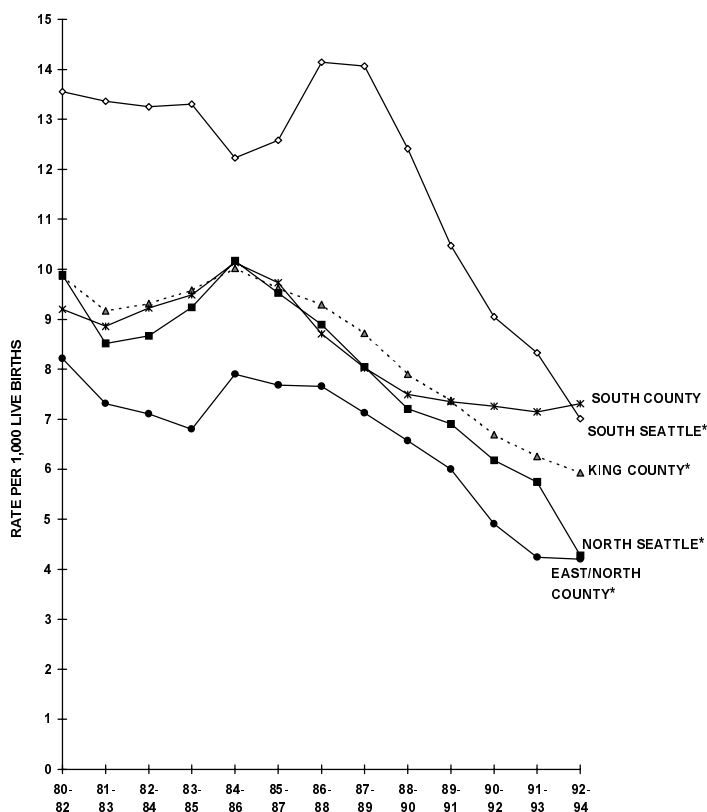
CHAPTER IV. REGIONAL VARIATION IN INFANT MORTALITY WITHIN KING COUNTY

King County is quite large and diverse. Consequently, the health status of its population varies among its different regions. This chapter describes trends in infant mortality, causes of infant death and risk factors by region.

TRENDS IN INFANT MORTALITY BY REGION

The infant mortality rate during the 1992 to 1994 period was significantly higher in the South Seattle and South County regions than in the North Seattle and East/ North County regions. Trends in infant mortality also varied across the regions. While all regions experienced slight increases in the early 1980s and decreases in the late 1980s, the South County rate stopped declining in recent years while the other regions continued to show improvements (Figure 4.1).

FIGURE 4.1
INFANT MORTALITY RATES
KING COUNTY, SEATTLE,
SOUTH CO., EAST/NORTH CO.
THREE YEAR ROLLING AVERAGES, 1980-1994



* THIS TREND FROM 1989-1994 IS A STATISTICALLY SIGNIFICANT DECREASE.
TRENDS FROM 1980-1994 ARE A STATISTICALLY SIGNIFICANT DECREASE FOR
KING COUNTY AND ALL REGIONS
SOURCE: BIRTH AND DEATH CERTIFICATES.

As a result of these divergent trends, the South Seattle rate, which was 62 percent higher than the South County rate in the 1986-88 period, reached parity with the South County rate by 1992-94.

The steeper and more sustained decline in the North Seattle rate relative to the East/North County rate resulted in these two rates becoming equal by the 1992-94 period.

North Seattle registered the largest percentage decline (56 percent) in infant mortality between the high period of 1983-85 and the most recent 1992-94 period. South County had the smallest percentage decline (25 percent) for the same period.

The largest absolute decline took place in South Seattle (6.1 per 1000) while the smallest occurred in South County (2.4 per 1000).

TRENDS IN CAUSES OF INFANT DEATH

Infant mortality from each of the four major causes of death (congenital anomalies, perinatal complications, prematurity, SIDS) declined in each of the regions from the 1984-86 period of high infant mortality to 1992-94, the most recent period examined (Table 4.1). While all regions demonstrated decreases in the SIDS rate, South County showed smaller absolute and proportional decrements. South County also lagged behind in reduction of deaths due to prematurity. Both South Seattle and South County had smaller than average declines in deaths due to perinatal conditions. North Seattle showed marked improvement in the death rates due to prematurity and perinatal conditions. South Seattle posted impressive decreases in deaths from SIDS and prematurity.

TABLE 4.1
CHANGES IN MAJOR CAUSES OF INFANT MORTALITY BY REGION OF KING COUNTY,
1984-86 VS. 1992-94

SIDS	1984-1986* RATE	1992-1994* RATE	DECREASE* IN RATE	DECREASE IN RATE
KING COUNTY	2.94	1.38	1.56	53%
SOUTH KING COUNTY	3.10	2.02	1.08	35%
EAST/NORTH KING COUNTY	2.28	0.61	1.67	73%
NORTH SEATTLE	2.73	0.97	1.76	64%
SOUTH SEATTLE	3.90	1.55	2.35	60%
PERINATAL CONDITIONS				
KING COUNTY	2.23	1.44	0.79	35%
SOUTH KING COUNTY	2.08	1.58	0.50	24%
EAST/NORTH KING COUNTY	1.91	1.13	0.78	41%
NORTH SEATTLE	2.45	0.97	1.48	60%
SOUTH SEATTLE	2.64	2.06	0.58	22%
CONGENITAL ABNORMALITIES				
KING COUNTY	2.03	1.38	0.65	32%
SOUTH KING COUNTY	2.13	1.58	0.55	26%
EAST/NORTH KING COUNTY	1.91	1.28	0.63	33%
NORTH SEATTLE	2.35	1.36	0.99	42%
SOUTH SEATTLE	1.48	1.03	0.45	30%
PREMATURITY				
KING COUNTY	1.65	0.77	0.88	53%
SOUTH KING COUNTY	1.39	0.95	0.44	32%
EAST/NORTH KING COUNTY	1.05	0.56	0.49	47%
NORTH SEATTLE	1.79	0.19	1.60	89%
SOUTH SEATTLE	2.74	1.13	1.61	59%
* DEATHS PER 1000 LIVE BIRTHS				

TRENDS IN RISK FACTORS

The measured risk factors for infant death did not change uniformly across the regions of King County (Table 4.2). South Seattle showed the largest percentage decreases for all factors and the smallest increase in single marital status. Despite these favorable changes, the occurrence of all risk factors remained highest among South Seattle births. South County had either the smallest decreases or largest increases in all risk factors and tended to have the second highest rates of occurrence of risk factors. East/North County usually had the lowest levels of risk factors.

These patterns are consistent with the large drop in infant mortality observed in South Seattle and the stagnation of the rate in South County.

TABLE 4.2
CHANGES IN RISK FACTORS FOR
INFANT MORTALITY BY REGION OF KING COUNTY, 1984-86 vs. 1992-94

	INFANT MORTALITY*			LOW BIRTH WEIGHT**			PRETERM BIRTH**		
REGION	1984-86	1992-94	PERCENT CHANGE	1984-86	1992-94	PERCENT CHANGE	1984-86	1992-94	PERCENT CHANGE
NORTH SEATTLE	10.17	4.28	-57.92	5.41	4.93	-8.87	8.15	8.35	2.45
SOUTH SEATTLE	12.23	7.01	-42.68	8.07	7.18	-11.03	11.82	11.24	-4.91
EAST/NORTH COUNTY	7.90	4.20	-46.84	4.47	4.50	0.67	7.37	8.30	12.62
SOUTH COUNTY	10.14	7.31	-27.91	5.37	5.66	5.40	8.92	9.44	5.83
	INADEQUATE PRENATAL CARE**			SINGLE MARITAL STATUS**			TEEN MATERNAL AGE**		
REGION	1984-86	1992-94	PERCENT CHANGE	1984-86	1992-94	PERCENT CHANGE	1984-86	1992-94	PERCENT CHANGE
NORTH SEATTLE	4.47	3.05	-31.77	14.04	17.61	25.43	4.13	3.99	-3.39
SOUTH SEATTLE	10.82	7.30	-32.53	36.68	39.55	7.82	13.33	11.35	-14.85
EAST/NORTH COUNTY	3.20	2.67	-16.56	9.24	12.58	36.15	4.39	4.02	-8.43
SOUTH COUNTY	5.98	5.01	-16.22	17.25	25.88	50.03	8.25	9.48	14.91
	SMOKING**			ALCOHOL**					
REGION	1984-86	1992-94	PERCENT CHANGE	1984-86	1992-94	PERCENT CHANGE			
NORTH SEATTLE	14.46	10.71	-25.93	---	5.39	---			
SOUTH SEATTLE	24.39	14.64	-39.98	---	4.97	---			
EAST/NORTH COUNTY	14.57	10.66	-26.84	---	3.82	---			
SOUTH COUNTY	23.82	17.93	-24.73	---	2.89	---			
* DEATHS PER 1000 LIVE BIRTHS									
** PERCENT OF ALL LIVE BIRTHS									

INFANT MORTALITY AND RISK FACTORS BY HEALTH PLANNING AREA

To further understand the regional variation in infant mortality, we analyzed the rate for each of the 21 health planning areas in King County. Central and Southeast Seattle were the only areas whose rates significantly exceeded the county average during the 1990 to 1994 period. All areas within South County were above the county average with the exceptions of White Center/Skyway and Federal Way.

The following map (Figure 4.2) illustrates the variation in infant mortality rates by health planning area. The areas with the darkest shading have rates that exceed the County average by one standard deviation.

FIGURE 4.2
INFANT MORTALITY RATE IN KING COUNTY BY HEALTH PLANNING AREA
5 YEAR AVERAGE, 1990 - 1994

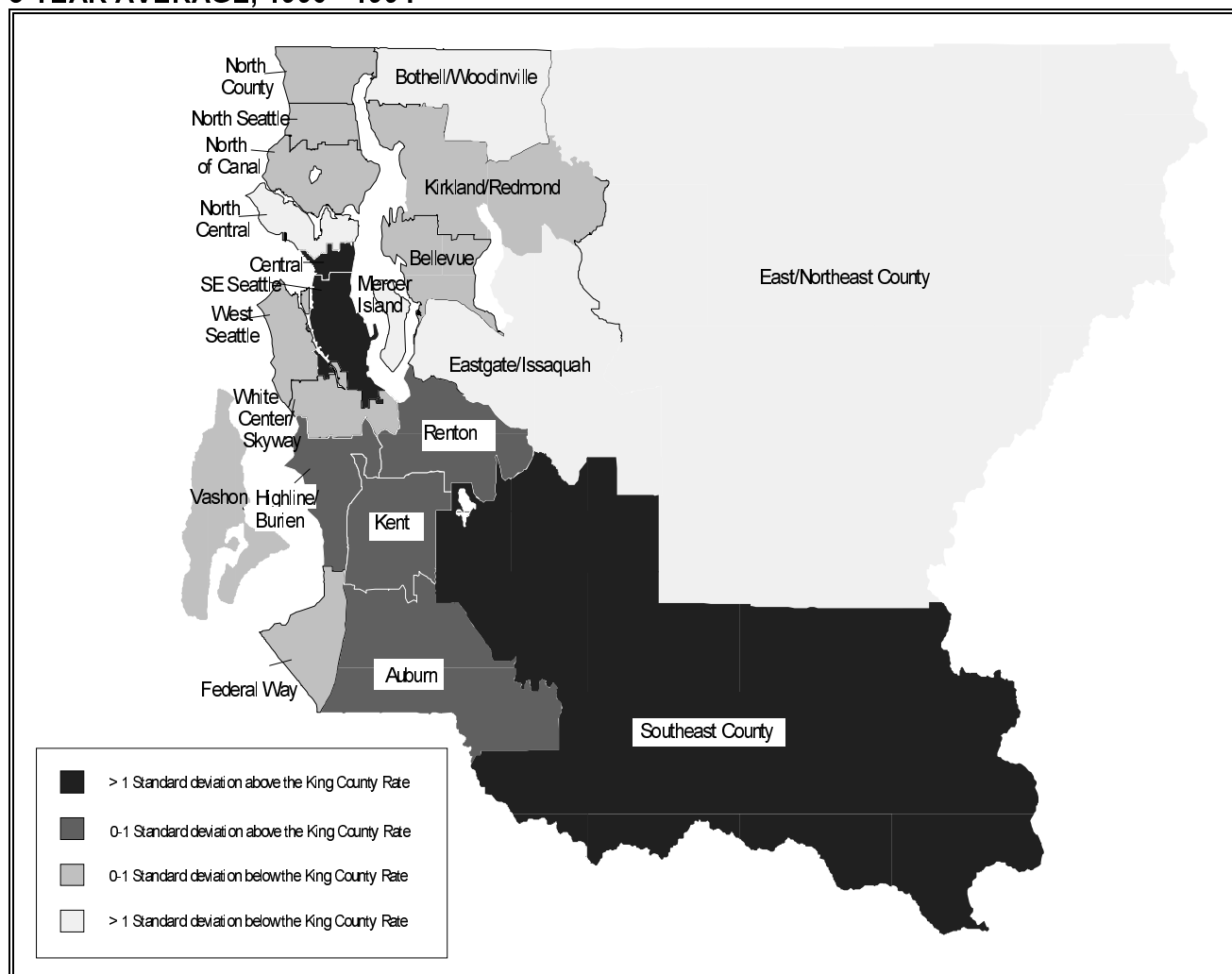


Table B.2 in Appendix B contains the infant mortality rates for each health planning area during the 1990-1994 period.

Time trends in infant mortality also varied among the small areas. The stagnation in the infant mortality rate observed in South County was apparent in all of its health planning areas except Federal Way. Even though Auburn, White Center/Skyway, Kent and Southeast County experienced sharp decreases in the late 1980s, these declines were not sustained in the early 1990s. Health planning areas elsewhere in King County demonstrated consistent declines throughout the 1990s.

CONCLUSIONS

Important shifts in infant mortality and risk factors have occurred within King County during the past decade. The improving trends in South Seattle are encouraging. They are in part due to intensive efforts to improve maternal and infant health over the past several years. In addition to the expansion of Medicaid and the First Steps programs, several community agencies have implemented outreach and education programs to help pregnant women in this area, as described in Chapter II. Because the infant mortality rate in South Seattle remains higher than average, continued efforts in South Seattle are needed to produce further gains in maternal and infant health.

The lack of improvement in infant mortality and its risk factors in South County is of concern. In part, this may be explained by the changing demographic composition of South County, although the necessary demographic data to confirm this hypothesis are not available from existing data sources. Census data are current only through 1990. Birth certificates lacked socioeconomic markers until 1992 and are therefore not useful for tracking trends. This leaves only race from birth certificates as a proxy marker for socioeconomic status. The proportion of white women among all women giving birth in South County has dropped from 92% in 1980 to 72% in 1994, while the proportions of births of African and Asian American mothers have increased. Since members of these two ethnic groups who live in South County tend to be less well off than whites, it seems reasonable to conclude that more births are occurring among women with lower socioeconomic status. It is also possible that the minority mothers who have arrived in South County more recently may experience both financial and cultural barriers to obtaining services which promote healthy pregnancies and infants. Regardless of the causes of the flattened trend in infant mortality, more efforts focused on this region of the county are in order.